

# OnTheMap: The Road to Local Employment Dynamics

May 15, 2019

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U.S. Census Bureau



# Agenda

## Longitudinal Employer-Household Dynamics (LEHD)/Local Employment Dynamics (LED)

- LEHD/LED Overview

## Understanding N.A.I.C.S.

## Census Geography

## LEHD/LED Web Tools

## Additional Resources

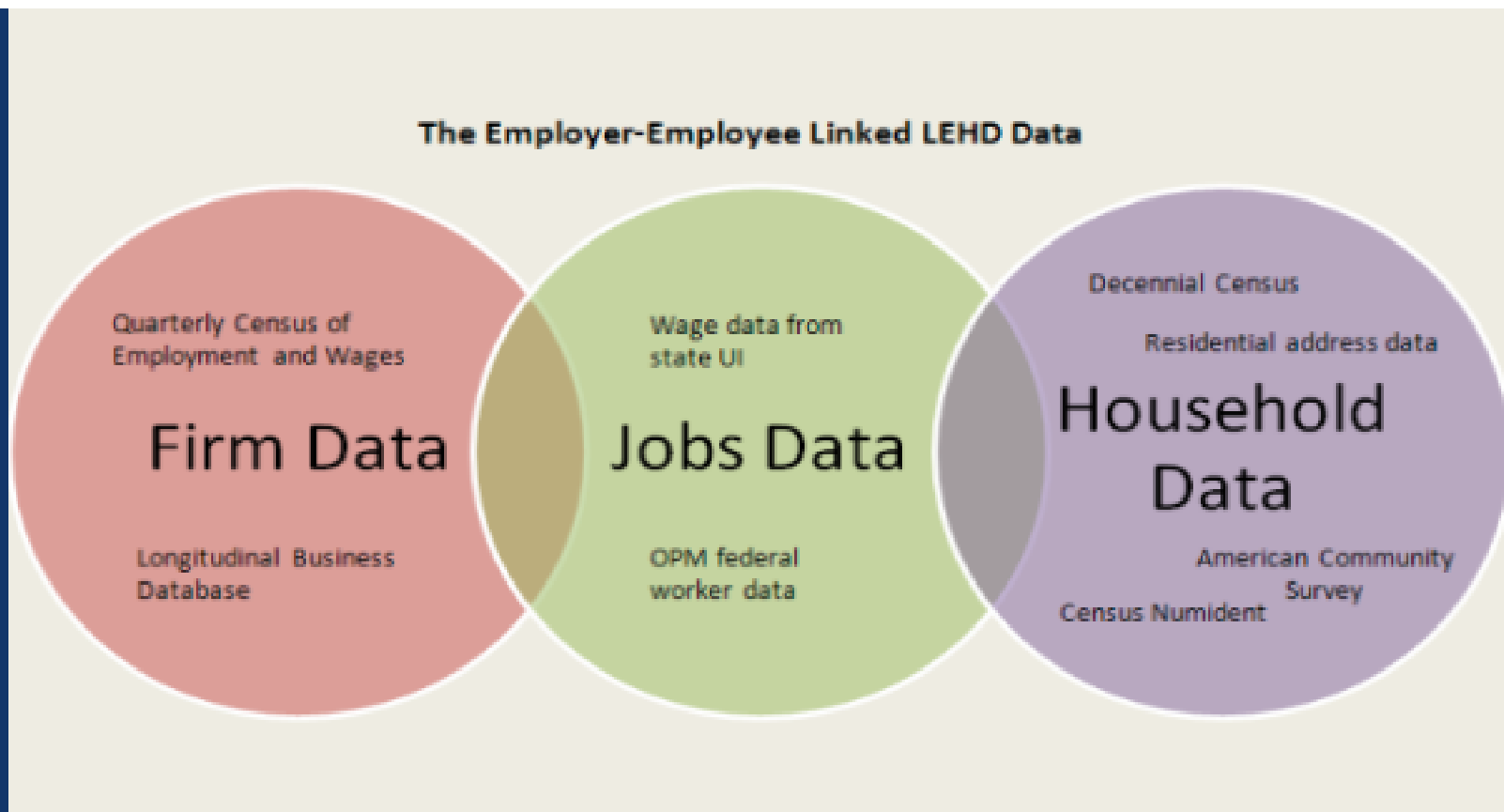
## Q&A

# Longitudinal Employer-Household Dynamics (LEHD)

## What is LEHD?

Until recently, many interactions between workers and firms were unobservable because there existed no link between employer and household data in the U.S. statistical system.

Since 1999 the Longitudinal Employer-Household Dynamics (LEHD) program at the U.S. Census Bureau has sought to fill this gap in the nation's statistical infrastructure by building a comprehensive database of longitudinally linked jobs data. The potential uses of the LEHD jobs data are far-reaching, both for unraveling important economic questions and for the provision of new statistical products.

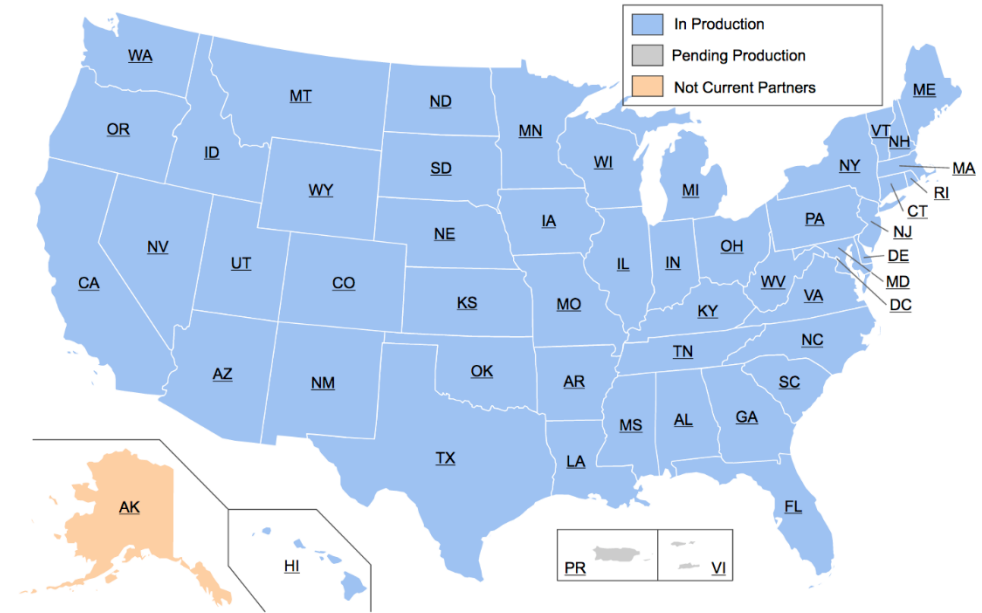


# Where Do the Data Come From?

- Local Employment Dynamics (LED) Partnership
  - Begun in late 1990s with a few states
  - Some states have time series back to 1990 (AZ goes back to 2004)
  - Not currently producing data for \*Alaska, Puerto Rico, and Virgin Islands

\*Alaska data available in Quarterly Workforce Indicator (QWI) Explorer tool

## State Partners



<a href="#">Alabama</a>	<a href="#">Illinois</a>	<a href="#">Montana</a>	<a href="#">Rhode Island</a>
<a href="#">Alaska</a>	<a href="#">Indiana</a>	<a href="#">Nebraska</a>	<a href="#">South Carolina</a>
<a href="#">Arizona</a>	<a href="#">Iowa</a>	<a href="#">Nevada</a>	<a href="#">South Dakota</a>
<a href="#">Arkansas</a>	<a href="#">Kansas</a>	<a href="#">New Hampshire</a>	<a href="#">Tennessee</a>
<a href="#">California</a>	<a href="#">Kentucky</a>	<a href="#">New Jersey</a>	<a href="#">Texas</a>
<a href="#">Colorado</a>	<a href="#">Louisiana</a>	<a href="#">New Mexico</a>	<a href="#">Utah</a>
<a href="#">Connecticut</a>	<a href="#">Maine</a>	<a href="#">New York</a>	<a href="#">Vermont</a>
<a href="#">District of Columbia</a>	<a href="#">Maryland</a>	<a href="#">North Carolina</a>	<a href="#">Virginia</a>
<a href="#">Delaware</a>	<a href="#">Massachusetts</a>	<a href="#">North Dakota</a>	<a href="#">Washington</a>
<a href="#">Florida</a>	<a href="#">Michigan</a>	<a href="#">Ohio</a>	<a href="#">West Virginia</a>
<a href="#">Georgia</a>	<a href="#">Minnesota</a>	<a href="#">Oklahoma</a>	<a href="#">Wisconsin</a>
<a href="#">Hawaii</a>	<a href="#">Mississippi</a>	<a href="#">Oregon</a>	<a href="#">Wyoming</a>
<a href="#">Idaho</a>	<a href="#">Missouri</a>	<a href="#">Pennsylvania</a>	<a href="#">Puerto Rico</a>
			<a href="#">Virgin Islands</a>

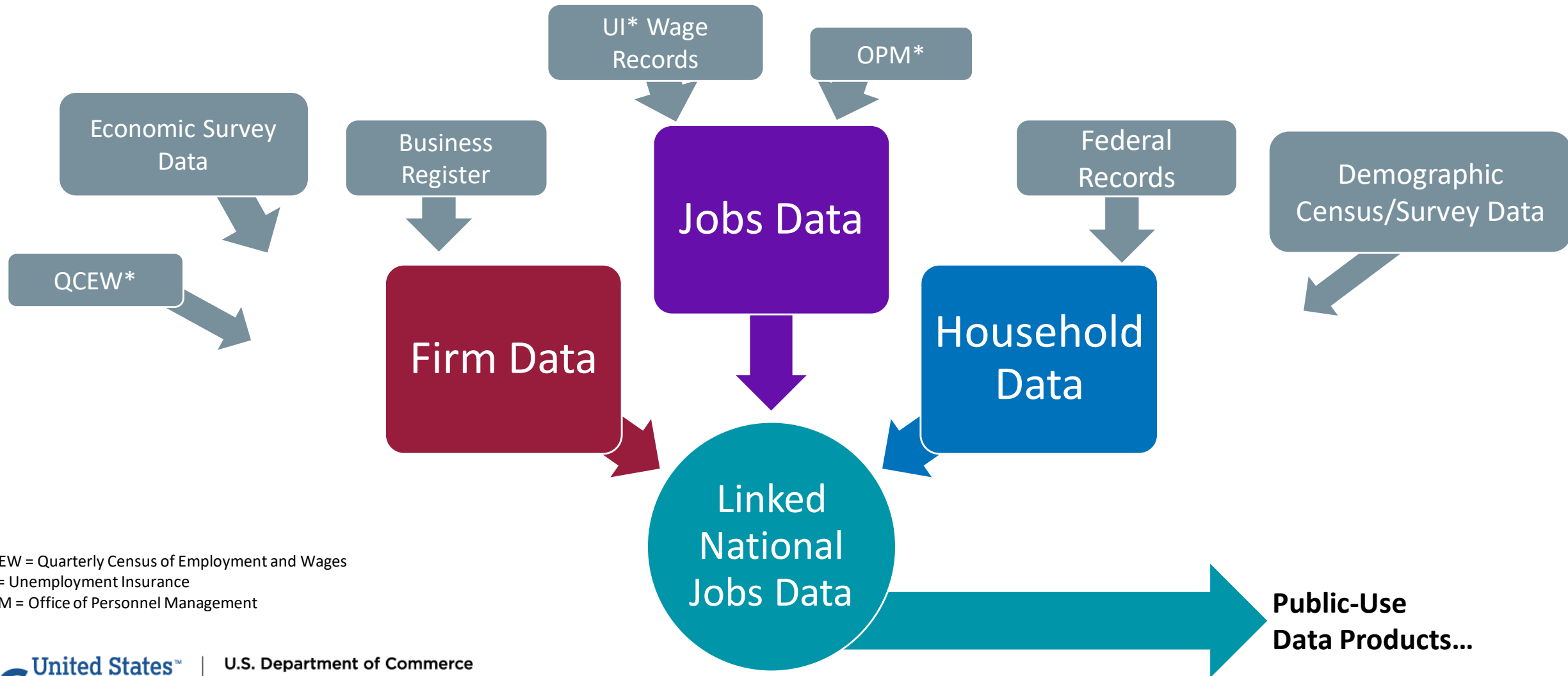
# Local Employment Dynamics (LED) Data

- Provides unprecedented detail about America's jobs, workers and local economies.
- Provides longitudinal record of U.S. Employment
- Integrates existing data from state-supplied administrative records on workers and employers
- LED is an integral part of the DOC Open Government Plan to unlock public access to high-value government data

# Building on State Inputs

- We combine **state records** with other admin/census/survey data from the **Census Bureau** and **other Federal agencies**
- We can then create public statistics on:
  - Firms & Establishments
  - Jobs & Workers
  - By Firm and Person Characteristics
- Without new respondent burden

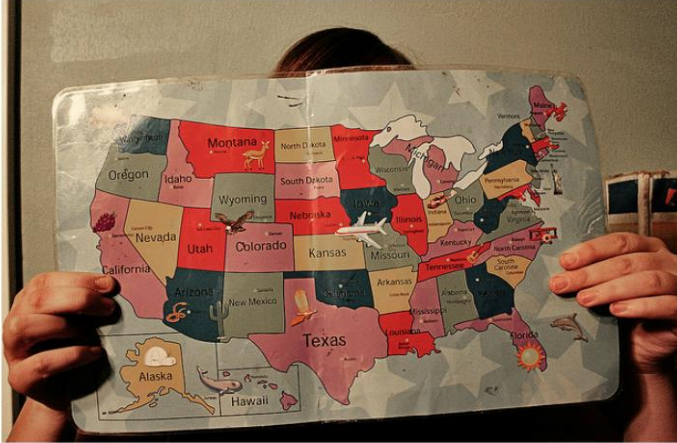
# Admin. Records & LED Infrastructure



QCEW = Quarterly Census of Employment and Wages  
UI = Unemployment Insurance  
OPM = Office of Personnel Management



# Local Employer-Household Dynamics: Public Use Data Products



## The Quarterly Workforce Indicators (QWI)

- Employment
- Job Creation, Job Destruction, Hires, Separations, Turnover
- By industry, county, CBSA, state, Workforce Investment Area (WIA) and worker characteristics

## Job-to-Job Flows (J2J)

- Traces worker movement through industries, geographic labor markets, and to/from employment

## OnTheMap/LEHD Origin-Destination Employment Statistics (LODES)

- Employment at the Census block level by where workers live and work
- Popular uses - local economic development, business site selection, and emergency planning



U.S. Department of Commerce  
Economics and Statistics Administration  
U.S. CENSUS BUREAU  
[census.gov](https://www.census.gov)



## Post-Secondary Employment Outcomes (PSEO)

- New set of statistics on the earnings and employment outcomes of graduates of post-secondary institutions in the United States



# Important to Know

- Job data cover over 95% of private employment and most state, local, and federal jobs
- Contains only UI-covered jobs: no US Post Office, no military jobs, no self-employed, 1099s, *etc.*
- Excludes some secretive 3-letter agencies (NSA, FBI)
- Employment and wages measured at start of Q2
- OnTheMap: “Distance” is a straight-distance calculation: reported primary place of work, reported home location. Not on a road network, not a commute measurement
- OnTheMap: 2-digit NAICS only; 3-digit NAICS may be added to the J2J tool.

# *North American Industry Classification System (NAICS)*

# Getting Started: Learning Your Industry

## NAICS Codes

- North American Industry Classification System
  - Launched in 1997 as part of NAFTA
  - Codes are updated every 5 years (end in 2 & 7)
  - Hierarchical

<i>Level</i>	<i>Code</i>	<i>Examples</i>
Sector	45	Retail Trade
Sub-Sector	451	Sporting Goods, Hobby, Book, and Music Stores
Industry Group	4511	Sporting Goods, Hobby, and Musical Instrument Stores
Industry	45112	Hobby, Toy, and Game Stores
U.S. Industry	451120	Hobby, Toy, and Game Stores

# More Information

- NAICS web site (<https://www.census.gov/eos/www/naics/>)
  - Industry definitions and Concordance tables
  - Relationships to other systems
  - Federal Register Notices

United States  
**Census**  
Bureau

U.S. Department of Commerce | Blogs | Index A-Z | Glossary | FAQs

TOPICS  
Population, Economy

GEOGRAPHY  
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News, Blogs

ABOUT US  
Our Research

Search

You are here: [Census.gov](#) > [Business & Industry](#) > NAICS

## North American Industry Classification System

[Main](#) [History](#) [Development Partners](#) [Federal Register Notices](#) [NAPCS](#) [FAQs](#)

### NAICS Search:

Enter keyword or 2-6 digit code  
  
[2017 NAICS Search](#)

Enter keyword or 2-6 digit code  
  
[2012 NAICS Search](#)

Enter keyword or 2-6 digit code  
  
[2007 NAICS Search](#)

### Reference Files

- [2017 NAICS](#)
- [2012 NAICS](#)
- [2007 NAICS](#)

### Introduction to NAICS

The North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy.

NAICS was developed under the auspices of the Office of Management and Budget (OMB), and adopted in 1997 to replace the [Standard Industrial Classification \(SIC\) system](#). It was developed jointly by the [U.S. Economic Classification Policy Committee \(ECPC\)](#), [Statistics Canada](#), and Mexico's [Instituto Nacional de Estadística y Geografía](#), to allow for a high level of comparability in business statistics among the North American countries.

This official U.S. Government Web site provides the latest information on plans for NAICS revisions, as well as access to various NAICS reference files and tools. Additional information on the background and development of NAICS is available in the [History](#) section of this Web site.

### 2017 NAICS Manual

### Announcements

[The revised 2022 NAICS Update Process Fact Sheet is now available](#) [PDF, 106KB]

[The 2017 NAICS Manual is now available here to view or download](#)

[NAICS 2017 Revision is final August 08, 2016](#) [PDF, 290KB]  
North American Industry Classification System—Revision for 2017; Notice. Vol. 81, No. 152

[2017 NAICS Structure](#) [XLSX, 94KB]

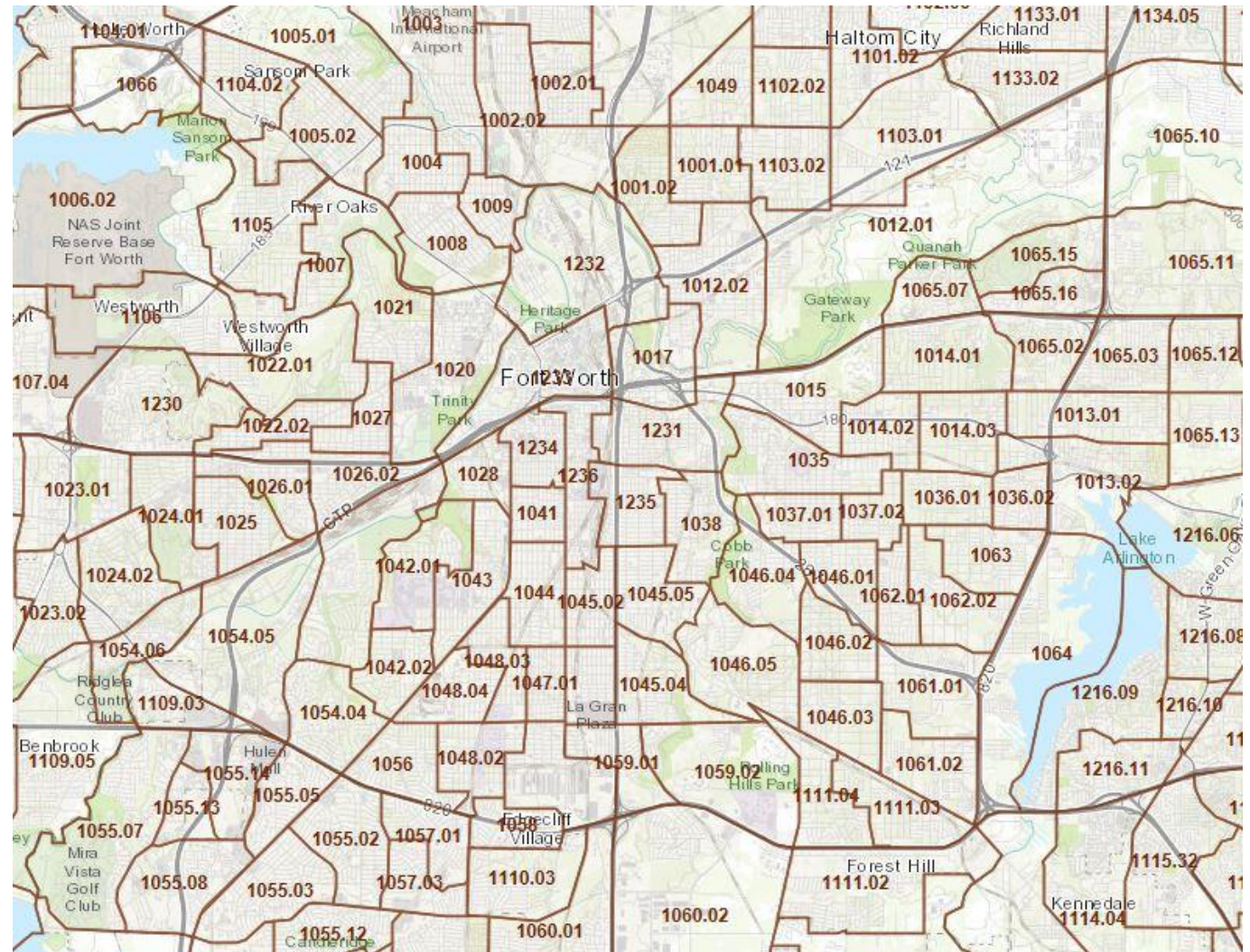
[2017 NAICS to 2012 NAICS](#) [XLSX, 59KB]

## *Census Geography*



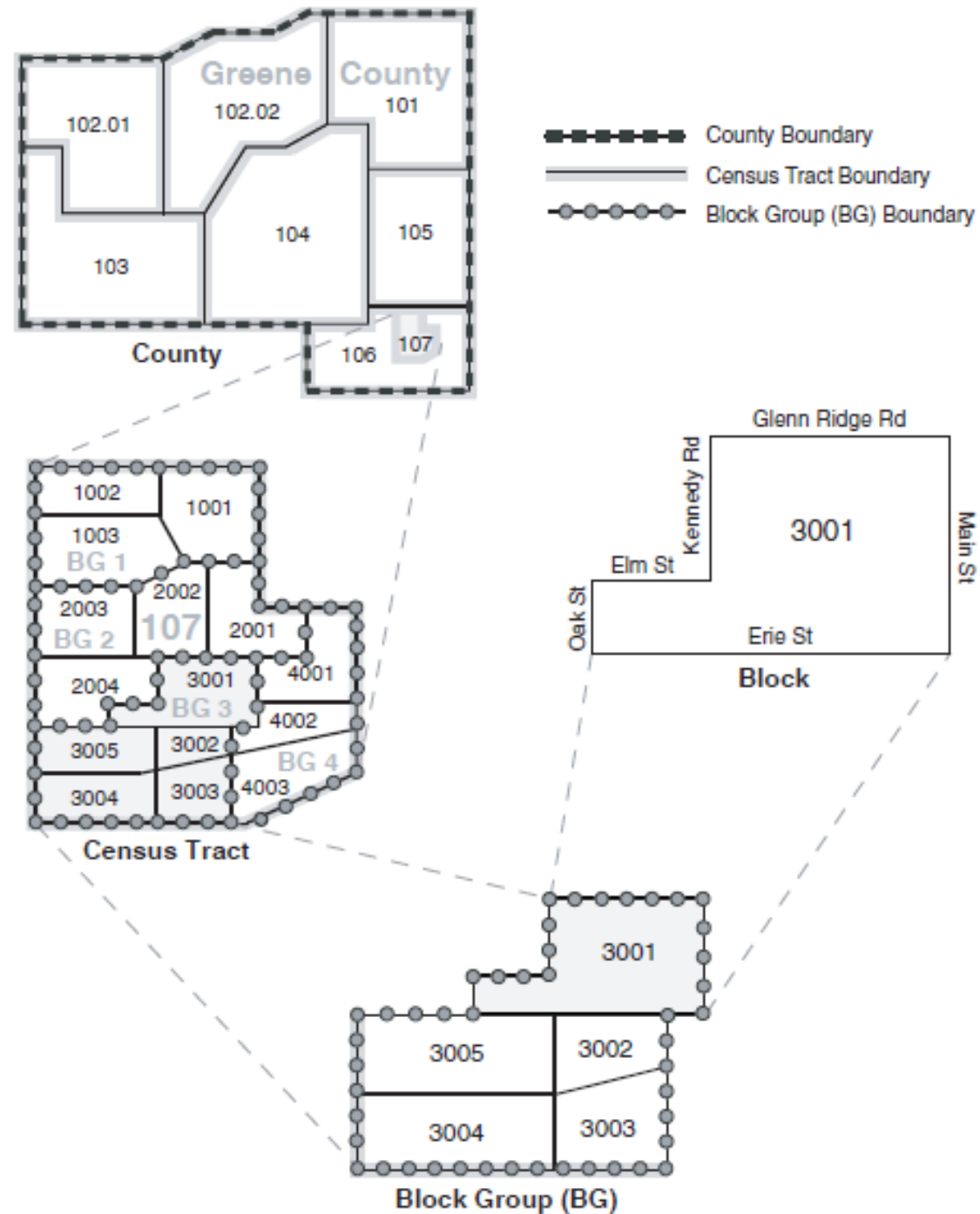
# Selected Census Geographic Concepts—Statistical Areas

- [Regions](#)
- [Divisions](#)
- [Census Designated Places](#)
- [Census County Divisions](#)
- [Public Use Microdata Areas \(PUMA\)](#)
- [Zip Code Tabulation Areas \(ZCTAs\)](#)
- [Census Tracts](#)
- [Block Groups](#)
- [Block](#)

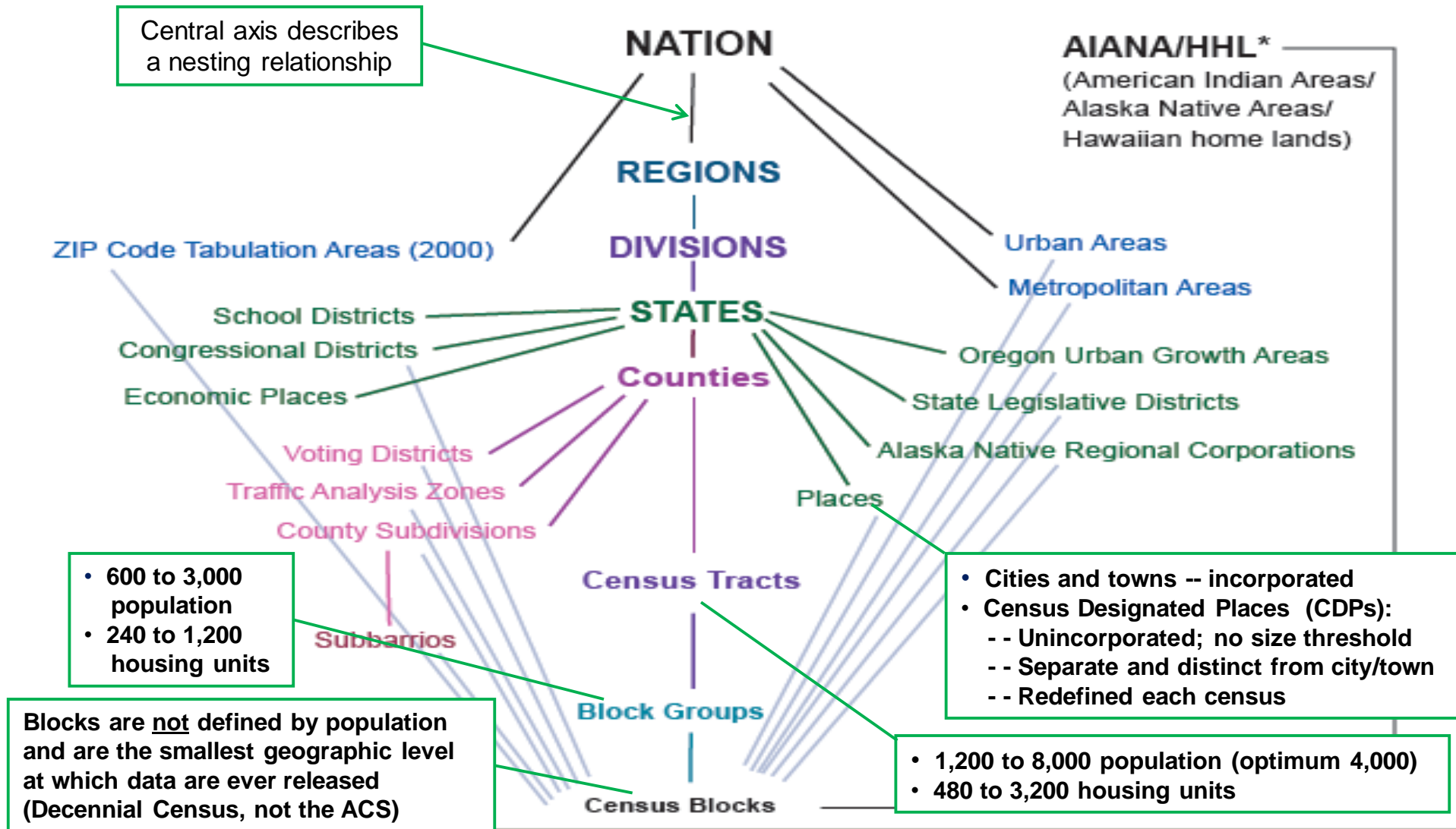




## Geographic Area Relationships— Small Statistical Areas



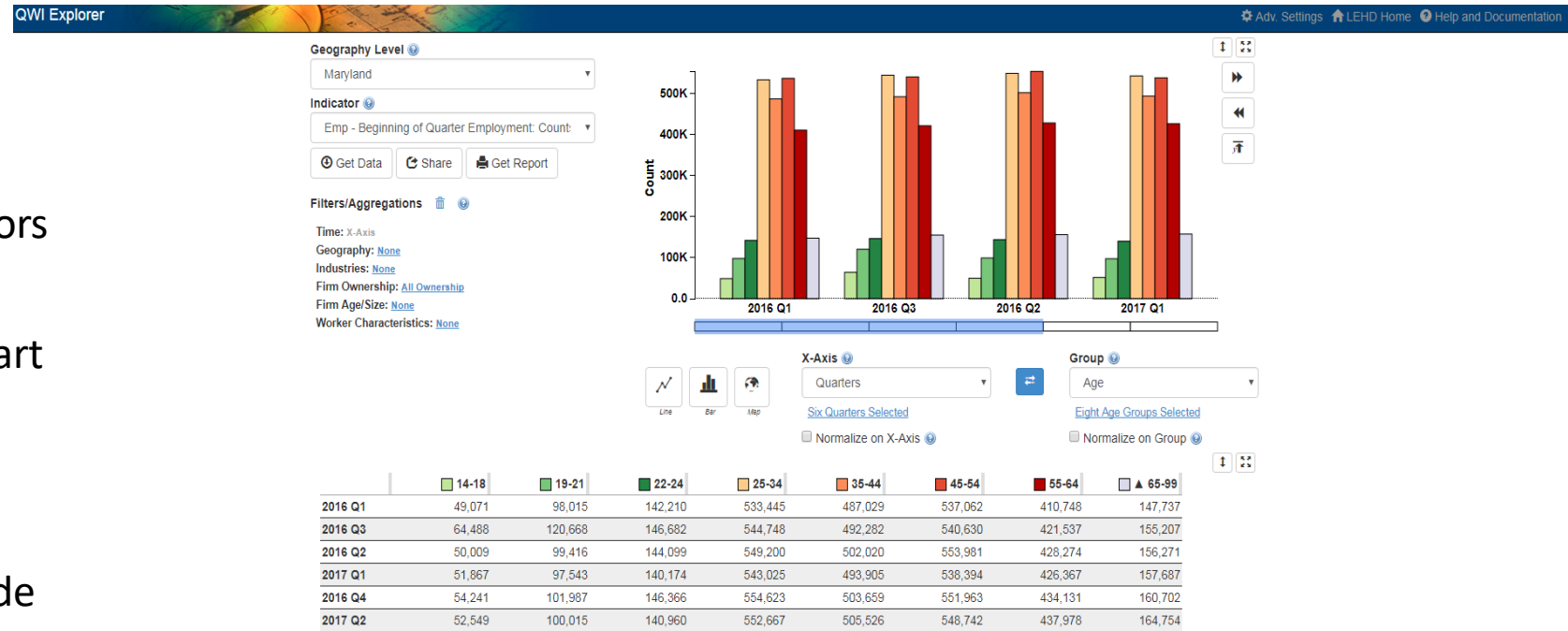
# Census Geography Hierarchy



## *LEHD Public Data Tools*

# QWI Explorer

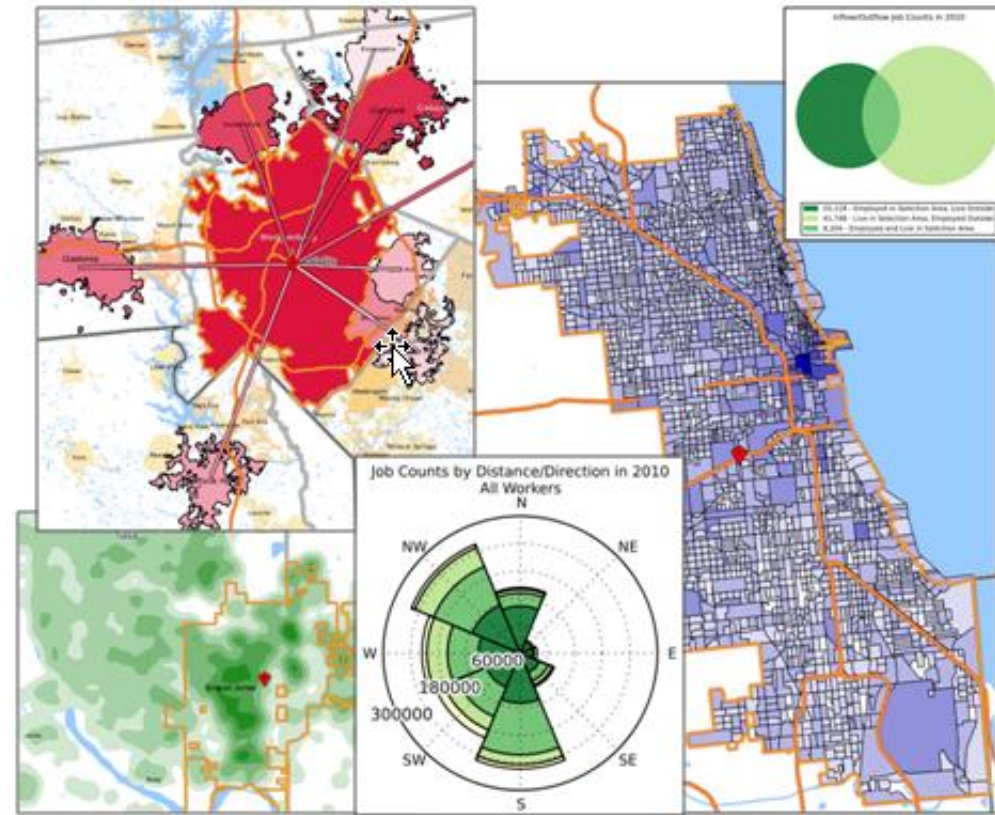
- ✓ 32 Quarterly Workforce Indicators
- ✓ Flexible Pivot Table and Map/Chart interface
- ✓ Data on detailed interactions between firms and workers include employment, employment change (individual and firm), and earnings
- ✓ Analyze/report by worker demographics: age, earnings, race, ethnicity, educational attainment, and sex



- ✓ Analyze/report by firm characteristics
  - ✓ NAICS classification (sector, 3, 4)
  - ✓ Firm age and firm size
- ✓ Quarterly data (9-12 months old)
- ✓ National and 50 states available (plus DC)

# OnTheMap

- ✓ Where do workers live?
- ✓ Where do residents work?
- ✓ What are the commuter flows of a particular area?
- ✓ Analyze/report by worker demographics
  - ✓ Age, earnings, race, ethnicity, educational attainment, and sex
- ✓ Analyze/report by firm characteristics
  - ✓ NAICS Sector, firm age, and firm size



- ✓ 2002-2015 annual data
- ✓ 50 states available (plus DC)
- ✓ User-selected areas
- ✓ Based on Census Blocks
- ✓ Disclosure protection
- ✓ Flexible Inputs/Outputs



# OnTheMap for Emergency Management



Hurricanes, Floods,  
Winter Storms



Disaster Areas



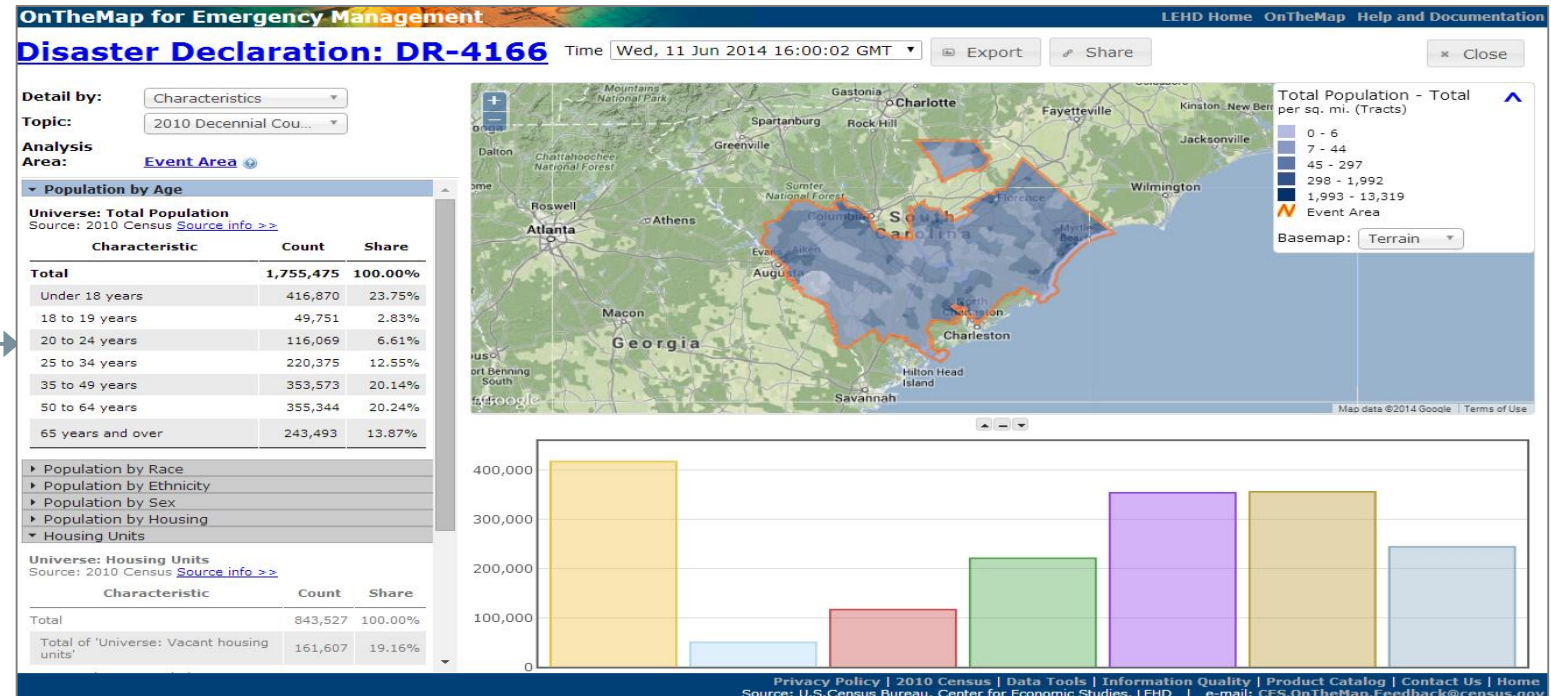
Wildfires



Demographic &  
Economic Data



U.S. Department of Commerce  
Economics and Statistics Administration  
U.S. CENSUS BUREAU  
[census.gov](https://www.census.gov)



## New Public Data Service for Emergency Preparedness & Response

- Comprehensive Reports
- Real-time Data Updates
- Easy-to-use & Interoperable
- Historical Event Archive
- Flexible Analyses & Visualizations



([OnTheMapEM](#))



# LED Extraction Tool

- ✓ Comprehensive QWI Data Coverage – Access 32 indicators, all available years/quarters, all firm/worker
- ✓ Characteristics, the Beta release of National QWI data, and all 50 states (plus the District of Columbia).
- ✓ Intuitive Interface – Streamlined interface walks users through the process of selecting the data they need and ignoring the data they don't. Complex and confusing choices are made invisible to the user by not allowing false combinations and graying-out unavailable options.

LED Extraction Tool - Quarterly Workforce Indicators (QWI)

1. Geography | 2. Firm Characteristics | 3. Worker Characteristics | 4. Indicators | 5. Quarters | 6. Summary and Export

Geography Level

Search:

Louisiana  
Maine  
Maryland  
Massachusetts  
Michigan  
Minnesota  
Mississippi  
Missouri  
Montana  
Nebraska  
Nevada  
New Hampshire  
New Jersey  
New Mexico  
New York  
North Carolina

New Mexico  
Counties: 33, Metro/Micropolitan Areas: 20, Workforce Investment Areas: 4

Geography Type

Counties  
Micro/Metropolitan Areas  
Workforce Investment Areas

Areas

Search:

Check All | Check None | Invert Selection

☒ 35 New Mexico  
☐ 35001 Bernalillo, NM  
☐ 35003 Catron, NM  
☐ 35005 Chaves, NM  
☐ 35006 Cibola, NM  
☐ 35007 Colfax, NM  
☐ 35009 Curry, NM  
☐ 35011 De Baca, NM  
☐ 35013 Doña Ana, NM  
☐ 35015 Eddy, NM  
☐ 35017 Grant, NM  
☐ 35019 Guadalupe, NM  
☐ 35021 Harding, NM  
☐ 35023 Hidalgo, NM  
☐ 35025 Lea, NM  
☐ 35027 Lincoln, NM  
☐ 35028 Los Alamos, NM  
☐ 35029 Luna, NM  
☐ 35031 McKinley, NM  
☐ 35033 Mora, NM

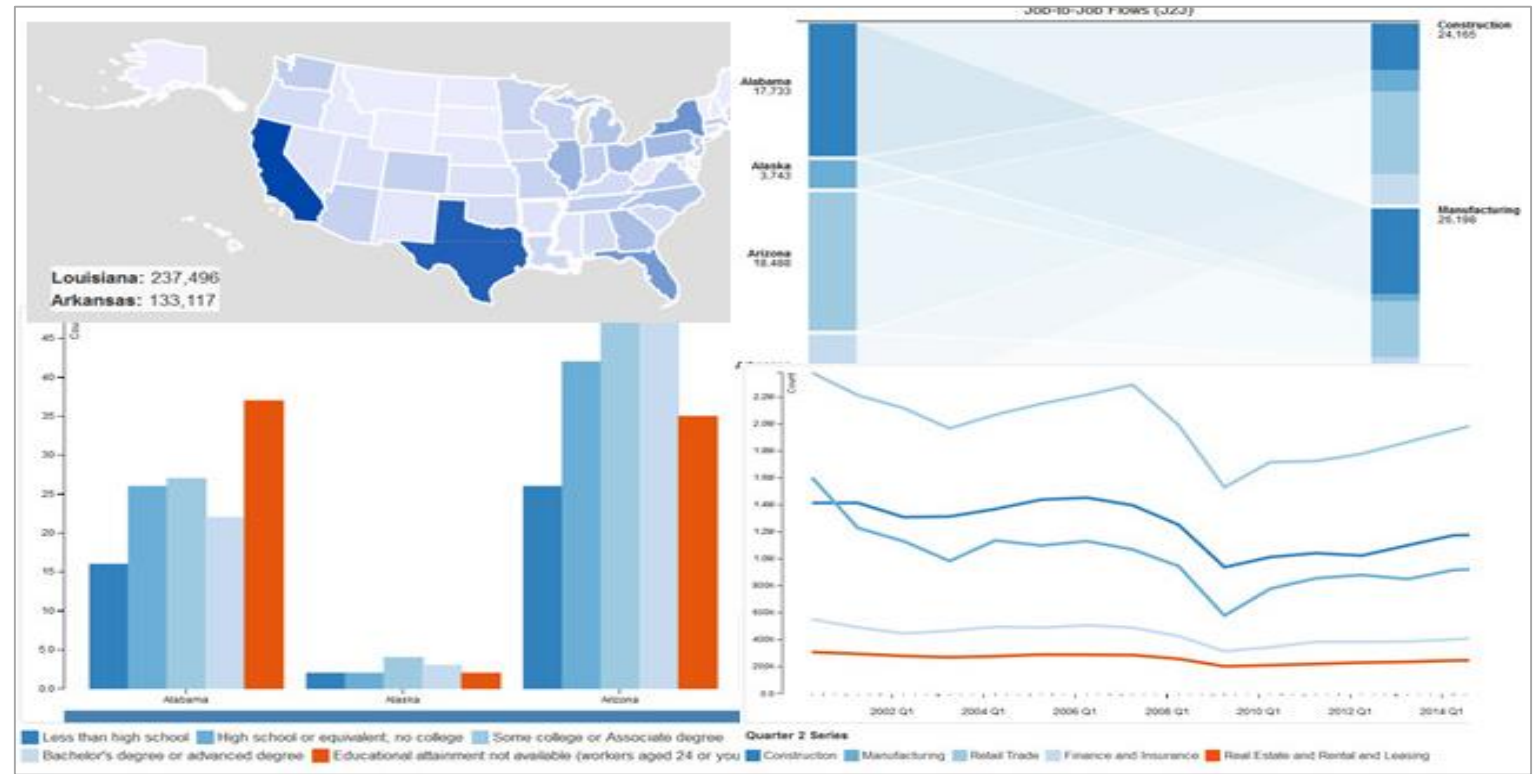
Click to select 35029 Luna, NM

Load Settings | Continue to Firm Characteristics

- ✓ Quick Results – Data queries are processed quickly through a sequential job queue, then CSV and/or ZIP files (complete with metadata) area available for download. All completed data queries from a user's current session are saved for easy access in a query results list.
- ✓ Easy-To-Use Documentation – Online documentation, including tutorials and walkthroughs

# J2J Explorer (Beta)

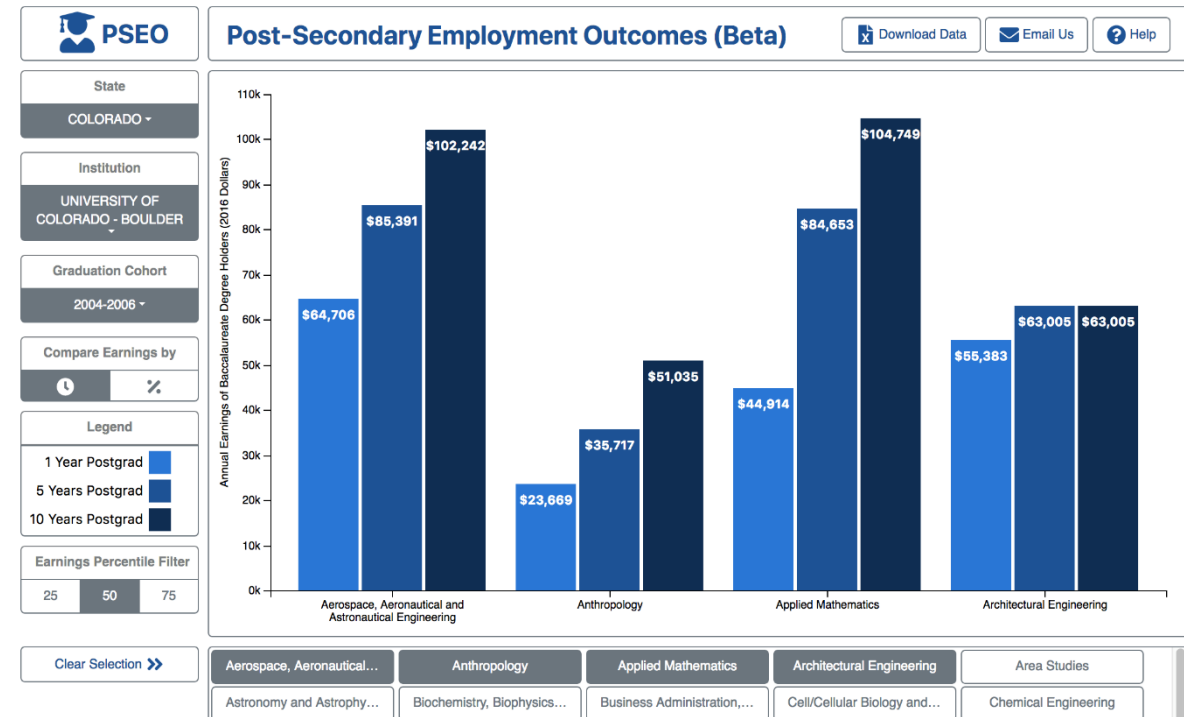
- ✓ 40 Measures of Worker Reallocation
- ✓ Six Visualization Modules with a flexible dashboard interface
- ✓ Export reports to Excel or CSV
- ✓ Trace worker movements through industries, geographic labor markets, and to/from employment
- ✓ Analyze/report by origin and destination at the national and state level



- ✓ Analyze/report by origin/destination firm characteristics, NAICS Sector, Firm age/firm size
- ✓ Analyze/report by worker demographics: age, earnings, race, ethnicity, educational attainment, and sex
- ✓ Data updated every quarter

# Post-Secondary Employment Outcomes (PSEO) (Beta)

- ✓ Experimental tabulations
- ✓ Earnings and employment outcomes for college & university graduates by degree level, degree major, and post-secondary institution.
- ✓ State-of-the-art confidentiality protection mechanisms to protect the underlying data
- ✓ Data sharing partnerships between universities, university systems, State DOE, State Labor Market Information offices, and the U.S. Census Bureau
- ✓ Data are currently only available for post-graduate institutions whose transcript data has been made available to Census Bureau through a data-sharing agreement (Colorado, Michigan, Texas, & Wisconsin)



## Download Public-Use Data

Two classes of files for Graduate Earnings tabulations:

- ✓ Comprehensive dataset, which includes all institutions and crossings.
- ✓ Earnings for each system, which is a subset of the above release.

# Choosing Among LED Data Products

What do you want?	Potential Drawbacks	Data Product
Employment, hires, separations, turnover, or earnings by detailed firm and person characteristics; quarterly time resolution; relatively short data lag	No geography below county; no residential information	QWI
Employment for detailed or customized geography; residential patterns of the workforce; relationship between worker employment and home locations	Annual time resolution; less detailed firm/person characteristics	LODES
Transitions between jobs by timing and firm or worker characteristics; transitions to/from nonemployment	No worker characteristics by firm characteristics (except geography), no geography below states	J2J

# Where Data is Published:

Data Product	Explore the data, answer questions, or get visualizations	Bulk data for use in analysis process/software	Live queries for building web applications
QWI	<a href="#">QWI Explorer</a>	<a href="#">LED Extraction Tool</a> and <a href="#">Raw data download</a>	<a href="#">Census Bureau API</a>
LODES	<a href="#">OnTheMap</a> <a href="#">OnTheMap for Emergency Management</a>	<a href="#">Raw data download</a>	Future development
J2J	<a href="#">J2J Explorer</a>	<a href="#">Raw data download</a>	Future Development
PSEO	<a href="#">PSEO Visualization Tool</a>	<a href="#">Raw data download</a>	Future Development

# Useful Links

- QWI Explorer
  - [Video Walkthrough](#)
  - [Example Scenarios](#)
- J2J Explorer
  - [Analysis Guides](#)
  - [FAQs](#)
- OnTheMap
  - [Getting Started](#)
  - [Analysis Guides](#)
  - [Other Tutorials](#)



# Takeaways

- The LED Partnership provides unique workforce information and analysis tools at a relatively low cost
- LED data products can give insight into **local** and regional economies and labor markets
- LED's web tools provide free, 24/7 access to a basic analytical platform for the data

# Stay Current

## NEWSROOM



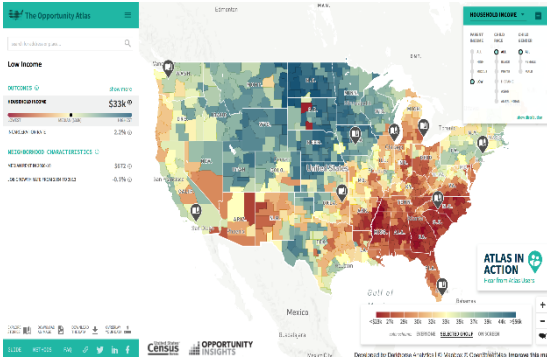
The latest news releases and statements from the U.S. Census Bureau. Also, find upcoming events, and useful information for media  
[census.gov/newsroom.html](https://www.census.gov/newsroom.html)

## DIRECTOR'S BLOG



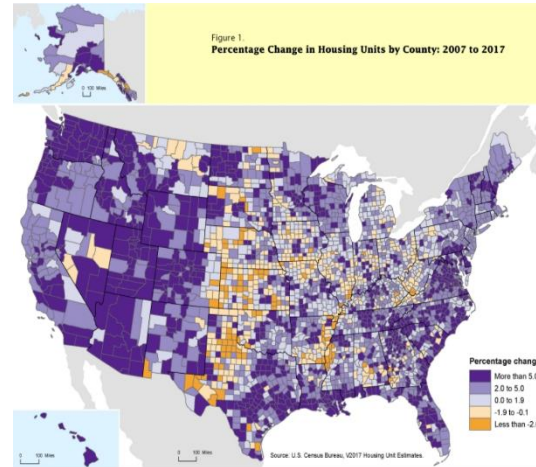
This blog gives the director's point of view on everything from Census Bureau news to how we measure America's people, places and economy.  
[census.gov/newsroom/blogs/director.html](https://www.census.gov/newsroom/blogs/director.html)

## AMERICA COUNTS



Featured stories on various topics such as families, housing, employment, business, education, the economy, emergency preparedness, and population  
[census.gov/AmericaCounts](https://www.census.gov/AmericaCounts)

## STATS FOR STORIES



Provides links to timely story ideas highlighting the Census Bureau's newsworthy statistics that relate to current events, observances, holidays, and anniversaries  
[census.gov/newsroom/stories.html](https://www.census.gov/newsroom/stories.html)  
[census.gov/newsroom/facts-for-features.html](https://www.census.gov/newsroom/facts-for-features.html)

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More information on the  
American Community Survey:  
<https://www.census.gov/acs>



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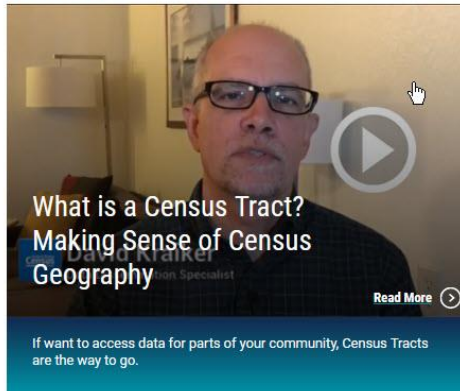
# Data Dissemination and Training: [census.gov/academy](https://census.gov/academy)

## Census Academy

Data Gems  
Webinars  
Courses - Coming Soon!



### Data Gems



VIDEO | OCTOBER 11, 2018

#### How to Access Data for a Neighborhood or Service Area

By using Census Tracts, you can select the boundaries of your area, and access demographic, socioeconomic, and housing statistics about your community.

VIDEO | SEPTEMBER 21, 2018

#### How to Extract Data from the Census API

Learn how to use the Census API to explore or learn more about America's changing population and economy.

VIDEO | SEPTEMBER 21, 2018

#### Visualizing Characteristics Using the Census Engagement Navigator

Learn how to use this interactive visualization to quickly understand what areas of the country had high or low return rates in the 2010 census.

[VIEW ALL DATA GEMS](#)

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1-844-ASK-DATA

Connect with us on Social Media

Additional Resources:  
Want Free Training?  
Need Local Stats?



U.S. Census Bureau  
Data Dissemination Specialist

Eric Coyle

(702) 236-3202

[eric.a.coyle@census.gov](mailto:eric.a.coyle@census.gov)

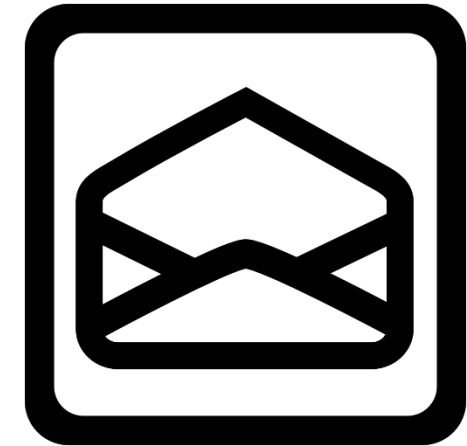
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Additional Assistance:

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[census.askdata@census.gov](mailto:census.askdata@census.gov)

# Q&A and Thank You!